

LOW DIELECTRIC CONSTANT MATERIAL REINFORCEMENT FOR IMPROVED
ELECTROMIGRATION RELIABILITY

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ABSTRACT

A reinforced semiconductor interconnect structure,
having the following components:

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A first metal interconnect disposed in a first
material, the first metal interconnect having a line portion
and at least one via portion, an anode section and a
cathode section, the via portion of the first metal
interconnect located in the anode section, the line portion
of the first metal interconnect having a top, bottom and
terminus side, wherein at least a part of the bottom side of
the line portion of the first metal interconnect in contact
with the first dielectric;

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a first reinforcement disposed in the first material,
the first reinforcement in contact with at least the bottom
side of the first metal interconnect, the first
reinforcement comprising a second material, the second
material being electrically nonconductive; and wherein the

second material has a greater mechanical rigidity than the first material.